MONTHLY WEATHER REVIEW,

SEPTEMBER, 1877.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

The present REVIEW for the month of September depends upon all data received up to the 14th of October from the Canadian Meteorological Service, the United States Navy, the Army Post Surgeons, Voluntary Observers and the United States Signal Service. The most interesting features have been: First, the cyclones of the Gulf of Mexico and of the Caribbean Sea. Second, the drought and prairie fires of certain regions. Third, the universal high temperature.

BAROMETRIC PRESSURE.

In General.—The general distribution of atmospheric pressure for the month is shown by the isobars on Map No. II, from which it appears that the area of highest pressure, 30.05, covers the Middle Atlantic States and southern New England. In September, 1871, the area of highest pressure, 30.15, covered the greater part of the region from Missouri to the Alleghanies. In September, 1872, the highest pressure, 30.05, covered the South Atlantic States. In September, 1873 and 1874, the area of 30.05 to 30.10 covered the South Atlantic, East Gulf, and Middle Atlantic States. In September, 1875, the area 30.05 covered the South Atlantic and East Gulf States; but in September, 1876, the pressure of 30.05 is found only in a small portion of northern Louisiana. On the average, therefore, the pressures for 1877 have been below the normal in the Gulf States and in the extreme Northwest, but have agreed with the normals in the Middle Atlantic States.

Barometric Ranges.—The general range of pressure is shown by the following table, from which it appears that for the whole country a range of 1.06 inches has been recorded:

LOW AREAS.				HIGH AREAS.			
No.	Location.	Date.	Minimum Pressure.	No.	Location.	Date.	Maximum Pressure.
I	Mouth St. Lawrence	Sept. 1st, 7:35 a. m.	29.56	I	Lower Missouri valley	Sept. 2nd, 7:35 a. m.	30.26
II	Southern Minnesota	Sept. 4th, 4:35 p. m.	29.75	II	Lower St. Lawrence val.	Sept. 7th, 7:35 a. m.	30.42
III	Missouri	Sept. 9, 7:35 a.m. 4:35p.m.	29.61	III	Lower Missouri valley	Sept. 17th, 7:35 a. m.	30.31
IV	Manitoba	Sept. 11th, 4:35 p. m.	29.44	IV	Middle Atlantic States	Sept. 23rd, 7:35 a. m.	30.35
V	Manitoba	Sept. 13th, 4:35 p. m.	29.37				
VI	Louisiana	Sept. 16th, 4:35 & 11 p. m.	29.43				
VII	Nova Scotia	Sept. 21st, 11 p. m.	29.45				
VIII	Minnesota	Sept. 21st, 4:35 p. m.	29.52				
IX	Minnesota	Sept. 24th, 11 p. m.	29.79				
X	Dakota	Sept. 26th, 4:35 p. m.	29.60				
XI	Cape Hatteras	Sept. 29th, 4:35 p. m.	29.56				
XII	Minnesota	Sept. 29th, 4:35 p. m.	29.36				

The local barometric ranges have been as follows: *Large Ranges*—Bismarck, 1.01; Breckenridge, 0.95; Boise City, 0.96; North Platte, 1.00. *Small Ranges*—Cambridge City, Tex., 0.31; Corsicana, 0.36; Pilot Point, 0.38; San Francisco, 0.34; Santa Fé, 0.29; Shreveport, 0.32; San Antonio, 0.37; Vicksburg, 0.33.

Areas of High Pressure.—In general but few high areas have been reported, and none of these presented cases of very high pressures.

No. I.—extended on the 1st, 2nd and 3rd from the Northwest slowly southeastward to the Gulf States, and thence eastward, reaching the South Atlantic coast on the 4th.

No. II.—covered British America on the 5th, and on the 6th had moved eastward to the St. Lawrence valley. On the 7th it moved southward over the Middle States and New England, producing high northeast winds on the coast, while the central highest pressure continued until the 9th to occupy the St. Lawrence valley, where the barometer fell on the 10th, and the highest pressure was transferred to the Middle Atlantic coast, where it remained, with slight variations, until the 13th.

No. III.—The pressure continued highest along the Atlantic coast from Florida to Newfoundland until the 16th, on which date an area of rising barometer and cool northerly winds extended rapidly southward from Oregon and Manitoba to California, Arizona and Kansas, apparently induced by the low barometer and cyclone that then prevailed in the Gulf of Mexico. The highest pressure was, on the 17th, 7:35 a. m. central in the Lower Missouri valley, and on the 18th, 7:35 a. m., central at St. Louis. The area now extended east and east-northeast, and on the 19th, 7:35 a. m., was central in Pennsylvania, and on the 20th, 7:35 a. m., was central off the Middle Atlantic coast. The path of this area of high pressure was to the northward of and parallel to the path of low barometer No. VI.

Nos. IV and V.—The three depressions that appear upon the map of September 21st, 7:35 a. m., were separated by an area of high pressure, then central over Lakes Huron and Michigan, which moved rapidly southeastward over Pennsylvania, and on the 23rd, 7:35 a. m., was central in the Middle Atlantic States, off which coast it remained until the 26th, 4:35 p. m., after which it was reinforced by high area No. V, which was then advancing directly southward over the St. Lawrence valley, and which was, on the 28th, still further reinforced, so that on the morning of that day almost the entire country was under a pressure exceeding 30.05, the highest, 30.35, being in Nova Scotia, and the whole acting as a feeder to the cyclones XI and XIII that were advancing from the Caribbean sea northward.

Areas of Low Pressure in General.—Of the barometric depressions recorded during September, six have been attended by violent winds, *i. e.*, Nos. II, VI, VII, IX, XI and XIII; the others have been characterized only by local winds, and have soon died away. Four severe storms have pursued their paths off our south and east coasts, and have not encroached upon the land so much as in the September of previous years. The other depressions have originated in the heated air of the Rocky Mountains; and of these No. II was the only one which advanced so far as the Atlantic ocean, where it soon became a severe storm.

Areas of Low Pressure.—No. I was central on the 1st in the lower St. Lawrence valley, and on the 2d over the Gulf of St. Lawrence, where it developed into a moderate storm; on the 3d, at 11 p. m., it was central over the northern part of the Gulf, and on the 4th was followed by westerly gales.

No. II.—This depression appears in the Northwest on the 4th, at 11 p. m.; it was, at 7 a. m. of the 5th, central in Illinois, whence it moved very slowly eastward, and was, at 7 a. m. of the 7th, central over the Chesapeake Bay. During the rest of the 7th it apparently moved eastward, and afterwards, during the 8th and 9th, northeastward; at 7 a. m. of the 10th, the centre was apparently east of Nova Scotia. During the 7th, 8th and 9th, heavy northeast gales prevailed along the Middle Atlantic and New England coasts, doing much damage, and was accompanied by high seas at Long Branch, Martha's Vineyard and other places. The schooner Addie Fuller, on the 9th off Hatteras, experienced a wind of 40 miles as measured by her anemometer.

No. III.—On the 7th a slight depression existed in New Mexico, while southeast winds prevailed in Texas. On the 8th this had developed into a trough of low pressure, extending from Texas to Montana, while the area of greatest deviation from the normal pressures for the month lay considerably to the northward. At 11 p. m. of the 8th and 7 a. m. of the 9th this trough is replaced by a well-defined area of low pressure, central in eastern Kansas and Nebraska. This depression now moved slowly eastward, reaching Ohio and Indiana at 7 a. m. of the 10th, and remained nearly stationary in this region until it disappeared at 11 p. m. of the 11th.

No. IV.—This depression was west of Manitoba at 4:35 p. m. of the 9th, and continued in the British Possessions until 11 p. m. of the 11th, where it was succeeded by northwest winds and rising barometer.

No V.—This depression apparently began as the southern portion of the preceding one, and developed, during the 12th, in western Kansas and Nebraska. It moved northward, and on the 13th, at 4:35 p. m., was central in Manitoba. It now extended slowly eastward, and on the 15th, at 4:35 p. m., had disappeared northeast of Lake Superior.

No. VI.—This severe storm first appeared on our tri-daily maps at 7:35 a. m., of the 16th. There had been a steady fall of pressure at all our Gulf stations from 11 p. m. of the 12th to 11 p. m. of the 15th; the

amount of this fall varied from 0.07 at Punta Rassa to 0.14 at Brownsville. The winds had been steady south-southeast and east, with clear or partly cloudy weather, except in the eastern portions occasional rains. The velocity of the winds had, however, increased from 4:35 to 11 p. m. instead of diminishing, in accordance with the normal diurnal changes, and at 7:35 a. m. of the 16th they had still further increased at Galveston and Indianola, and had backed to the northeast, with threatening and rainy weather. The fall of 0.06 in pressure at these stations, while it remained stationary at Brownsville and New Orleans, was additional evidence to indicate that the centre of the storm was approaching these stations. At this time the area of 29.80, or less, seems to have occupied the western third of the Gulf of Mexico, while the region of lowest pressure was still nearer to the Texas gulf. From 11 p. m. of the 15th to 11 p. m. of the 16th the barometer was stationary in Louisiana and the East Gulf States; it fell on the Texas coast, but fell and rose again at Brownsville. The central depression apparently moved northward from latitude 26° to latitude 28°, and thence northeast to latitude 29°, and at 11 p. m. of the 17th the lowest pressure was probably 29.50 or .55, and situated 100 miles east southeast of Galveston. The following notes, were reported by the Signal Service observer at Galveston: "An unusually high temperature prevailed for several days previous to the cyclone of 1875, and to the present one. On the 15th nothing unusual was noticed, except a faint lunar halo in the evening; later at night light, fleecy cirro-cumulus clouds came up from the south. The morning of the 16th opened with heavy fitful showers from the east, lasting at first but a quarter of a minute, but soon increased to a nearly continuous rain from the northeast. The peculiarities of the clouds were closely watched. At times they consisted of a uniform veil of stratus or nimbus, apparently calm; at other times of low cumulo-stratus-like scud, moving rapidly from the northeast; through rifts in the latter were frequently discernible a higher veil of stratus or cirro-stratus also apparently calm. This upper stratum was occasionally broken in places, disclosing spots of hazy sky. Increasing northeasterly winds and heavy rains continued throughout the day, with slowly but steadily diminishing pressure. The falling barometer would not have been considered worthy of notice but for the northerly winds and peculiar threatening aspect of the clouds. The tide was also rising slowly, and the gulf flecked with breakers and caps. At 7:50 p. m., Washington time, the display of cautionary signals was ordered; but the threatening weather had already been sufficient to warn the mariners, all of whom had made themselves as secure as possible. At 11 p. m., Washington time, the wind had increased to 24 miles; and about 1 a. m. of the 17th, on learning from Indianola that a velocity of 52 miles was prevailing there, the following series of observations was begun:

Date and Hour.	Barometer.	Thermom.	Relative humidity.	Wind.	Velocity.	Weather.	Date and Hour.	Barometer.	Thermom.	Relative humidity.	Wind.	Velocity.	Weather.
Sept. 16, 11:30 p. m.	29.72	78	95	NE	21	Light rain.	Sept. 17, 3:00 p. m.	29.50	73	100	NE	48	Light rain.
16, 12 Mid-n't.	29.70	76	100	NE	19	Light rain.	17, 3:30 p. m.	29.51	72	100	NE	40	Light rain.
17, 12:30 a. m.	29.67	76	100	NE	26	Light rain.	17, 4:00 p. m.	29.50	72	100	NE	44	Light rain.
17, 1:00 a. m.	29.68	76	100	NE	22	Heavy rain.	17, 4:30 p. m.	29.50	73	90	NE	48	Threatening.
17, 1:30 a. m.	29.67	75	100	NE	21	Light rain.	17, 5:00 p. m.	29.53	73	90	NE	48	Light rain.
17, 2:00 a. m.	29.65	76	100	NE	21	Light rain.	17, 5:30 p. m.	29.52	74	90	NE	48	Light rain.
17, 2:30 a. m.	29.64	76	100	NE	24	Light rain.	17, 6:00 p. m.	29.52	74	90	NE	50	Light rain.
17, 3:00 a. m.	29.63	76	100	NE	20	Light rain.	17, 6:30 p. m.	29.55	75	85	NNE	46	Threatening.
17, 3:30 a. m.	29.63	76	100	NE	23	Light rain.	17, 7:00 p. m.	29.57	75	85	NNE	48	Threatening.
17, 4:00 a. m.	29.61	76	100	NE	20	Light rain.	17, 7:30 p. m.	29.60	74	85	NNE	50	Threatening.
17, 4:30 a. m.	29.63	76	100	NE	21	Light rain.	17, 8:00 p. m.	29.62	74	90	NNE	48	Cloudy.
17, 5:00 a. m.	29.61	76	100	NE	24	Light rain.	17, 8:30 p. m.	29.63	74	90	NNE	48	Clearing.
17, 5:30 a. m.	29.60	76	100	NE	24	Light rain.	17, 9:00 p. m.	29.65	74	86	NNE	48	Threatening.
17, 6:00 a. m.	29.61	76	100	NE	24	Light rain.	17, 9:30 p. m.	29.67	73	90	NNE	48	Light rain.
17, 6:30 a. m.	29.62	76	100	NE	24	Light rain.	17, 10:00 p. m.	29.66	73	90	NNE	50	Light rain.
17, 7:00 a. m.	29.60	76	100	NE	21	Light rain.	17, 10:30 p. m.	29.66	73	90	NNE	50	Light rain.
17, 7:30 a. m.	29.62	75	100	NE	28	Heavy rain.	17, 11:00 p. m.	29.66	73	85	NNE	46	Threatening.
17, 8:00 a. m.	29.61	73	100	NE	27	Light rain.	17, 11:30 p. m.	29.61	73	81	N	44	Cloudy.
17, 8:30 a. m.	29.61	73	100	NE	28	Light rain.	17, 12 Mid-n't.	29.59	72	85	N	41	Threatening.
17, 9:00 a. m.	29.61	73	100	NE	30	Light rain.	18, 12:30 a. m.	29.63	71	90	N	46	Threatening.
17, 9:30 a. m.	29.57	73	100	NE	44	Heavy rain.	18, 1:00 a. m.	29.68	71	85	N	39	Cloudy.
17, 10:00 a. m.	29.56	73	100	NE	40	Heavy rain.	18, 1:30 a. m.	29.68	71	80	N	48	Cloudy.
17, 10:30 a. m.	29.54	73	100	NE	47	Light rain.	18, 2:00 a. m.	29.69	71	80	N	44	Cloudy.
17, 11:00 a. m.	29.53	73	100	NE	39	Light rain.	18, 2:30 a. m.	29.69	70	84	N	44	Cloudy.
17, 11:30 a. m.	29.52	72	100	NE	50	Light rain.	18, 3:00 a. m.	29.71	70	84	N	38	Cloudy.
17, 12 noon.....	29.49	72	100	NE	41	Light rain.	18, 3:30 a. m.	29.71	70	79	N	39	Cloudy.
17, 12:30 p. m.	29.49	71	100	NE	49	Light rain.	18, 4:00 a. m.	29.73	70	79	N	36	Cloudy.
17, 1:00 p. m.	29.48	71	100	NE	53	Light rain.	18, 4:30 a. m.	29.73	70	79	N	37	Cloudy.
17, 1:30 p. m.	29.49	72	100	NE	50	Light rain.	18, 5:00 a. m.	29.75	69	79	N	34	Cloudy.
17, 2:00 p. m.	29.49	72	100	NE	44	Light rain.	18, 5:30 a. m.	29.76	69	79	N	35	Cloudy.
17, 2:30 p. m.	29.48	72	100	NE	40	Light rain.	18, 6:00 a. m.	29.77	69	79	N	34	Cloudy.

It is believed that the anemometer would have registered higher but for the presence of a large building on the north side of this office, which has a tendency to deflect the (northerly) winds upwards and over the instrument. The only evidence of atmospheric electricity observed during the storm, consisted of a single faint glare of light at 2:35 a. m. on the 18th, visible for an instant in the northern portion of the heavens.

The damage done to property in Galveston and the vicinity is estimated at about $100,000. Total rain-fall during storm, 8.76 inches. Highest velocity, 60 miles, on the 7th, 6:45 p. m. Average velocity of the wind 38.8 miles during 48½ hours. The log of the steamship State of Texas furnishes no additional items.

This storm-centre passed eastward along the Louisiana coast to the mouth of the Mississippi, thence eastward through the Gulf and South Atlantic States, until it was lost to our view on the 21st over the Gulf stream. The observer at Indianola reports as follows: 15th, tide rose 3 feet. 16th, strong wind and very high tide all day; rain showers in the morning and afternoon; many inhabitants left the town at 5 p. m. 17th, north wind all day, maximum 72 miles, lowest pressure 29.62, at 4 a. m.; tide had risen 10 ft. 6 in., and then fell 2 ft. 18th, strong north wind; cloudless day. Cautionary Signals ordered September 16th, 7:50 p. m., whereupon everyone left the city, which was subsequently flooded with the high tide. No great amount of damage reported.

New Orleans reports on the 16th light showers, and on the 17th heavy showers, with increasing winds. Cautionary Signal was displayed during the whole of the 17th, and vessels remained in harbor. On the 18th very heavy rain and wind exceeding 25 miles per hour throughout the day. Lowest pressure, 29.40 in., occurred on the 18th, 7 p. m. Heavy gale prevailed from the 18th, 9 p. m., to 19th, 3 a. m. Maximum wind velocity, northeast, 39 miles, occured on the 19th.

The observer at Mobile reports signal displayed during the whole of the 17th. Wind exceeded 25 miles per hour, after 4:30 p. m., of 18th, and up to 11:15 a. m., of 19th. The maximum was 35 miles at 9:15 a. m. The barometer was lowest, 29.45, at 7 a. m., of 19th. Very heavy rain fell from 12:30 a. m., of 18th to 8 a. m., of 19th.

The observer at Montgomery, Ala., reports heavy rain and north to east winds throughout the 18th and 19th. On the 18th the upper stratum of clouds moved slowly from the southeast, while the lower stratum of scud moved rapidly from the northeast. The Black Warrior river rose 63 feet. The loss of crops was very heavy. Key West reports high seas and southwest winds on the 19th.

Tybee Island reports the Cautionary Signal ordered up, 7 p. m., of 18th. Very perfect solar halo visible throughout the day. Northeast gale began at 3 a. m., 19th, continuing until 11 p. m., highest velocity 38 miles. On the 20th, light showers all day, with very heavy sea. On the 21st, signal ordered down, but another gale set in, accompanied by intense zig-zag lightning and culminating in a velocity of 60 miles per hour at 4 a. m., of 22d. Severe northeast gales continued during the 23d, 24th, 25th, 26th and 27th. No vessels were able to go out and on the latter date sea captains reported a hurricane outside of harbor. (See No. XI.)

The steamship *Saragossa*, left Savannah on the 20th, for Baltimore, and returning reached Savannah on the 30th. Experienced northeast gales during the entire time and especially on the 20th and 21st. On the 27th to 29th, off Cape Henry, the northeast winds were of hurricane violence. The gale of the 20th and 21st was related to the storm No. V; the hurricane of the 27th to 29th, accompanied low No. XI.

No. VII.—While the preceding storm was moving eastward through the Gulf States a severe storm (No. VII.) was moving northward toward Nova Scotia, somewhat as shown by the dotted track given on chart No. I. Its nearest approach to the coast was apparently 11 p. m. of 21st. Of its previous history the only report that has as yet come to hand, is the loss of the Brig Harley John in lat. 30° 19′, long. 56° 45′, on Sept. 17th, during a hurricane from E. veering W.

No. VIII.—This depression appeared in Western Dakota at 7:35 a. m. of 21st, where it developed rapidly during the hot portion of the day, and was accompanied by high winds in the Northwest, but very little rain or cloud, it therefore died away after moving slowly southeastward through Minnesota to Wisconsin, which State it reached on the 23rd. This depression appears to have had an earlier origin in the region between Kansas, Nevada and Washington Territory, over all of which the pressure fell during the hottest portion of the 20th. The deviations from normal pressures show that at 11 p. m. of the 20th this depression covered the whole of our Rocky Mountain stations, and extended northwestward into British America. On the 21st, 11 p. m., the greatest depression was in Nebraska, Dakota and Minnesota, and was immediately followed by a rapid rise, coming in from the north, and in consequence of which the depression died out without further development.

No. IX.—The western part of area of low barometer, mentioned in the previous section, remained in the Rocky Mountain region, as a nucleus out of which subsequently developed the present area No. IX. On the 23rd, at 4:35 p. m., this area finally advanced from Colorado northward, and on the 24th the map of isobars places the centre in southwestern Minnesota. The depression disappeared on the 25th.

No. X.—During the 25th the barometer suddenly fell in Montana and Idaho, and the depression thus initiated was on the 26th, 7:35 a. m., probably central in Dakota, although extending southwestward to Colorado. Although accompanied by considerable rain, the area of low pressure rapidly filled up, and on the 27th disappeared over Lake Superior.

No. XI.— This storm having every appearance of a cyclone, first appeared on our tri-daily maps on the 27th, at 4.35 p. m., east of Florida and moving slowly northward. It was preceded by heavy rain and northeast to southeast gales on the North Carolina coast. It was on the 28th, at 7.35 a. m., southeast of Wilmington, where heavy rain was reported, but no wind, owing to its sheltered location. The barometer had for the previous week been highest to the north of Cape Hatteras, and northeast winds increasing to gales, had prevailed along the South Atlantic coast ever since the disappearance of low barometer No. VI. Owing to its slow progress this storm was very severely felt from Cape Lookout to Cape Henry, where steady northeast gales and high seas continued. The U. S. Steamer Frolic reports experiencing a hurricane on the 22nd and 23rd on the routes between Curacoa, Venezuela (latitude 12° N, longitude 69° W,) and Porto Rico. The storm-centre was probably then moving northwest and must be identical with the present No. XI. On the 24th the observers at Kingston and Santiago de Cuba reported every appearance of a hurricane at a distance to the northeast. On the 21st a cyclone was reported at St. Vincent and Grenada, (about 8° of longitude east of Curacoa,) which therefore apparently extends the path of this cyclone back into the Atlantic ocean.

No. XII.—An area of low barometer appears on the 28th, at 11 p. m., in Western Dakota. On the 29th it moved eastward to Minnesota, and on the 30th extended in a long oval from Iowa northeastward. It was accompanied by little or no rain, and its high winds died away as the depression filled up and disappeared.

No. XIII.—This cyclone existed in the Caribbean sea on the 27th, and will be described in the October Review.

Storms at Sea.—The following notes have come to hand relative to storms experienced at sea: 2nd, lat. 40° 10′ N., lon. 70° 42′ W., heavy SW., squall; 7th, hurricane passed north of St. Thomas; a gale off Kent Island Flats, Md.; 9th, lat. 49° 34′ N., lon. 37° 38′ W., NW., gale; 10th, lat. 49° 50′ N., lon. 38° 43′ W., strong gale, NE. to W. by N., high NW. sea; lat 47° 20′, N., lon. 37° 21′, W., strong gale, NNW. to NNE., head sea; lat. 48° 11′, lon. 44° 14′, NNW. gale; 11th, lat. 49° 34′ N., lon. 24° 33′ WNW. gale; 11th, off Rough and Ready, Cal., strong northwest gale; 12th, lat 49° 18′ N., lon. 18° 39′ W., fresh W. gale, heavy squalls and thick rain; lat. 49° 44′ N., lon. 6° 54′ W., fresh SW. gale; 13th, lat. 49° 32′ N., lon. 39° 10′ W., strong W. gale, very high sea; lat. 47° 25′ N., lon. 37° 42′ W., hard gale and high sea; lat. 49° 18′ N., lon. 22° 19′ W., fresh NNW. gale; lat. 50° 18′ N., lon. 13° 28′ W., fresh SW. gale; Mabow C. B., gale during night. 14th, lat. 46° 09′ N., lon. 46° 18′ W., strong W. gale, very high sea; lat. 51° 24′ N., lon. 14° 47′ W., fresh SW. to NW. gales; lat. 50° 06′ N. lon. 28° 39′ W., SW. storms, high sea. 14th and 15th., lat. 44° N., lon. 54° W., gale. 17th, lat. 49° 29′ N., lon. 33° 12′ W., strong SW. gale. 16th and 17th., midnight, about lat. 26° 0′ N., lon. 64° 30′ W., hurricane. 17th, 30° 19′ N., lon. 56° 45′ W., hurricane from E. veering to W., with terrific sea, lasting 24 hours and moderating to SW. 17th, steamship State of Texas, lat. 27° 50′, N., lon. 89° 56′ W,, fresh SW. gales and heavy seas. 18th, 2 a. m., steamship State of Texas encountered gale 360 miles from Galveston; noon, lat. 27° 53′ N., lon. 91° 10′ W., heavy SW. gales and seas; 4 p. m., wind hauled to north. On the 19th, lowest barometer was 29.65 ,about 160 miles SE. of Galveston. 18th and 19th, about lat. 26° 0′ N., lon. 64° 30′ W., hurricane from S. W.; 19th, lat. 49° 09′ N., lon. 31° 04′ W., SW. storm; 20th brig Woodcock, at Halifax, N. S., Sept. 23d, from Inagua, reports: 20th, midnight, on northern edge of Gulf Stream, severe E. N. E. gale, veering to N. W., lasting 48 hours; lat. 33° N., lon. 59° W; heavy S. S. W. gale, lasting 24 hours; 21st, Northwest Shoals, off coast of Massachusetts northerly gale; off Whitehaven, N. S., gale: St. Paul's Island, C. B., perfect hurricane, lasting 15 hours; Straits of Florida, violent gale; 22nd, Barbadoes and St. Vincent, NE. storms and hurricane; Steamer Alhambra, from Charlottetown to Halifax; September 23rd. off Nova Scotia, severe storm, steward washed overboard, boats smashed, also on the 22d, lat. 40° 22′ N., lon. 70° 52′ W., fresh NNW gale; lat. 41° 21′, N., lon. 66° 16′ W., fresh NNW gale; lat. 40° 20′, N. lon. 70° 50′ W., heavy NW gales and sea. 23d. lat. 48° 13′ N., lon. 57° 08′ W., heavy W. gale; lat. 42° 15′ N., lon. 58° 19′ W., fresh W. to NW. gale; lat. 49° 19′ N., lon. 42° 08′ W., heavy SSW. gale. 23d and 24th, lat. 36° 59′ N., lon. 74° 50′., heavy NE. gale. 24th, Mount Hope Bay, R. I., gale; lat. 46° 48′ N., lon. 39° 49′ W., fresh E. gale. 25th, lat. 45° 38′ N., lon. 41° 56′ W., severe N. gale, lasting 27 hours; lat. 49° N., lon. 17° W., heavy gale. 26th, lat. 45° 36′ N., lon. 50° 35′ W., fresh NE. gale. 28th, off Hog Island, heavy ESE. gale. 29th, off Cape Hatteras, cyclone from NE.

TEMPERATURE OF THE AIR.

In General.—The general distribution of the temperature of the air is shown by the isotherms on chart No. II. The table of comparative temperatures, in the left hand corner of same chart, shows the temperature of the month to have been higher than usual over the whole country, excepting in the mountainous region of Utah, Colorado and New Mexico. The excess is greatest in the Northwest and Upper Lake region; somewhat less over the Lower Lakes and New England, and still less along the Middle and South Atlantic States, while in the Gulf States, Tennessee and Ohio valley, it is only about half a degree above the normal; as is also the case on the Pacific coast.